

S/N 09/757,824

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

**PATENT**

Applicant: Beverly L. Davidson et al.  
Serial No.: 09/757,824  
Filed: January 9, 2001  
Title: PTD MODIFIED PROTEINS

Examiner: Christopher H. Yaen  
Group Art Unit: 1642  
Docket: 875.043US1

**DECLARATION OF DR. DAVIDSON UNDER 37 C.F.R. ' 1.132**

Commissioner for Patents  
Washington, D.C. 20231

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1. I, Professor Beverly L. Davidson, am one of the co-inventors of the above-identified patent application and currently hold the Roy J. Carver Biomedical Research Chair in Internal Medicine at The University of Iowa in Iowa City, Iowa. I have been a faculty member of the University of Michigan (1990 - 1994) and of the University of Iowa (1994 - present). My research focuses on a group of inherited metabolic disorders that affect the central nervous system (one of which is Batten disease). An additional focus of my research is the development of viral and non-viral vectors for gene transfer to the central nervous system. I have published numerous articles in peer reviewed scientific journals in these areas.

2. We have performed experiments testing the soluble lysosomal protein TPP-I, to determine if TPP-I remains enzymatically active when modified to contain a PTD motif. We found that TPP-I linked to PTD was indeed enzymatically active.

3. Briefly, cells were infected with recombinant viral vectors expressing human TPP-I to which a PTD had been engineered in-frame at the carboxyl terminal region of the protein. Control cells were exposed to virus expressing *E. coli*  $\beta$ -galactosidase. After 4 hours, the cells were washed and incubated an additional 2 days in cell culture media at 37°C in a tissue culture incubator. After 2 days, the supernatant containing the secreted, soluble lysosomal protein TPP-I, and the media from control-virus infected cells, was assayed for TPP-I enzyme activity using a sensitive fluorescent assay. The results are shown in Appendix A. "Mock" is the control, and

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"CLN2-Tat" is TPP-I linked to Tat PTD.



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4. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that the statements are made with the knowledge that willful false statement and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon

Sept 07, 02

Date

Beverly L. Davidson

Beverly L. Davidson

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner of Patents, Washington, D.C. 20231, on this 9 day of September, 2002. (*mm 2*)

CANDIS BENDING

Name

Candis Bending

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